

ATTORNEY DOCKET NO. SD-6594.1/S93878
SERIAL NO. 09/927,691
PATENT

REMARKS

Applicant gratefully acknowledges the current review of the petition regarding Applicant's arguments to the White paper.

Claims 1-22 are pending in the application.

Claims 1-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gibson, Sarah, U.S. Patent No. 6,084,593 ("Gibson"). Applicant respectfully submits the following in response and requests reconsideration.

Regarding claim 1, as described in Gibson, the starting point for the method is binary image data (Fig 2, item 12), where this data consists of a series of layers of voxels (Fig 4A, item 44), and the first step of the method is to find surface cubes (Fig 4B, item 48). Gibson requires that such a volumetric decomposition already exists. The present invention does not require either a surface or a volume decomposition, but a description in terms of a "geometric solid" as cited in claim 1.

Furthermore, the linked net of Gibson is not equivalent to the "chain" of linking surfaces in the present invention. Referring to Gibson, Fig 8A, the indicated surface net does not have a consistent *ij* parameterization as found in chains from the present invention (by Lemma 6 in present specification, p. 13, line 20). Therefore, one skilled in the art would not have found that a linked net from Gibson implies the surface link or chain contemplated by the present invention.

Regarding claim 2, as discussed above with reference to claim 1, Gibson cannot disclose conditions such as those in claim 2 of the present invention because the surface net of Gibson is not equivalent to the chain contemplated by the present invention.

Furthermore, claim 2 of the present invention refers to the generation of a mesh (or the

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possibility of doing so), while Gibson does not discuss the generation of a mesh (only the repositioning of point positions whose connections together are implied by an existing voxel representation).

Regarding claim 3, as discussed above with reference to claim 1, surface nets of Gibson are not required to have an implied ij parameterization. Further, Applicant respectfully submits that the Examiner has mischaracterized Fig. 5 from Gibson; that figure denotes a "surface net" of one dimension on a "volume voxelization" of 2 dimensions. That is, the quadrilaterals in Fig. 5 do not represent the surface net, but rather the decomposed domain inside which the "surface net" is being found.

Regarding claims 4 – 7, as discussed above with reference to claim 1 and reiterated with reference to claim 3, surface nets of Gibson are not required to have an implied ij parameterization. In addition, for claim 6, Gibson does not disclose information about generating a mesh, as discussed above with reference to claim 2. Features discussed in Gibson are geometric features, which Gibson seeks to preserve with a method for locating surface nets.

Regarding claims 8-11, edge types described by the present invention are used for distinguishing sets of surfaces as "linking" or "source/target" surfaces. Gibson does not separate surface net polygons into further sets, and makes no distinction between surface net polygons based on angle criteria.

Regarding claim 12, as discussed above with reference to claim 1 and reiterated with reference to claim 3 and 4-7, surface nets of Gibson are not required to have an implied ij parameterization, and therefore chains of surface net polygons are not constructed or implied.


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Regarding claims 13-22, the arguments put forth with reference to claims 1-22 are again applicable.

In view of the foregoing, Applicant respectfully submits that Claims 1-22 are allowable and requests notice to that effect. Further and favorable consideration is respectfully requested.

Respectfully submitted,

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